

TO: The Engineering Faculty

FROM: The Faculty of the School of Mechanical Engineering

DATE: August 23, 2000

RE: ME 464 Course Description Changes

The Faculty of the School of Mechanical Engineering has approved the following changes in prerequisites effective Spring Semester 2001. This action is now submitted to the Engineering Faculty with a recommendation for approval.

FROM:

ME 464 Vibration Measurement and Control Sem. 1. Class 3, cr. 3 (el.). Prerequisite: ME 365 or equivalent.

An introduction to vibration diagnostic and control methods. Modeling and analysis methods for low-order (one and two degrees of freedom) systems with some discussion of analysis of higher order systems. Fourier transform and transfer function techniques. Introduction to vibration measurement transducers, experimental modal testing, and diagnostic analysis. Demonstrations and laboratory experiments. Vibration control design strategies, including balancing and isolation. Professors Jones and Krousgrill.

TO:

ME 464 Vibration Measurement and Control Sem. 1. Class 3, cr. 3. Prerequisite: ME 365 or equivalent.

Theory and application of mechanical vibration analysis, diagnostics/prognostics, and control. Modeling and experimental analysis of low-order systems with extension to higher-order systems. Transform techniques (Laplace and Fourier) for transient and steady state behavior. Time, frequency, and spatial properties of vibrating systems. Virtual and real-time demonstrations and experiments using modern data acquisition hardware and measurement transducers. Advanced concepts in modal analysis, impedance modeling, and vibration control with applications in vehicle ride dynamics, machinery diagnostics, and infrastructure health monitoring.

REASON: The updated description more accurately describes the current content of the course. The changes are largely editorial with some slight changes in emphasis because of the evolution of the course. The elective course designation "(el.)" will also be deleted because it is inconsistent with the rest of the Undergraduate Catalog. Also, no faculty listing will be included as recommended by the Committee on Faculty Relations.

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE COMMITTEE ON
FACULTY RELATIONS

E. Daniel Hirleman
E.D. Hirleman, Head
School of Mechanical Engineering

CFR Minutes #929

Date 10/11/02

Chairman CFR C.D. Sutton